WHAT IS CLAIMED IS:

1.    A method of generating an OFDM signal, comprising the steps of:

5    assigning every segment of an input information signal to one of first signal points in a complex plane in response to a state of the segment, and generating first signal-point information representing the assignment of the segment to one of the first signal points;

generating second signal-point information in response to the

10    first signal-point information, wherein the first signal-point information and the second signal-point information are symmetrical with respect to a predetermined frequency having a relation of a predetermined integer ratio with an IDFT sampling frequency to cancel and nullify one of a real-part IDFT-resultant

15    signal and an imaginary-part IDFT-resultant signal; and

implementing IDFT in response to the first signal-point information and the second signal-point information to generate an IDFT-resultant OFDM signal having only one of a real-part component and an imaginary-part component.

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2.    An apparatus for generating an OFDM signal, comprising:

first means for assigning every segment of an input information signal to one of first signal points in a complex plane in response to a state of the segment, and generating first signal-point

25    information representing the assignment of the segment to one of the first signal points;

second means for generating second signal-point information in response to the first signal-point information generated by the first means, wherein the first signal-point information and the second signal-point information are symmetrical with respect to a

5     predetermined frequency having a relation of a predetermined integer ratio with an IDFT sampling frequency to cancel and nullify one of a real-part IDFT-resultant signal and an imaginary-part IDFT-resultant signal; and

third means for implementing IDFT in response to the first

10     signal-point information generated by the first means and the second signal-point information generated by the second means to generate an IDFT-resultant OFDM signal having only one of a real-part component and an imaginary-part component.